

ABSTRACT

A visible/near-infrared spectrometry and its device for determining the components of a sample and the characteristics of the components of the sample by using visible light and/or near-infrared light in the wavelength range from 400 nm to 2500 nm. This spectrometry and device enable measurement that has been conventionally difficult, including high-accuracy determination of many components, detection of components present in ultra-low concentrations, and real-time determination of component characteristics, including determination of the structure or function of bio-macromolecules and their variations. The spectrum of a sample is measured while exposing the sample to water-activating perturbations (WAP), thereby causing the response spectrum to change, and by detecting transitions of the response spectrum. With this, by conducting spectrum analysis and/or multivariate analysis, the components of the sample and/or the characteristics of the components can be determined.